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**Term:** (ad hoc piconet same wide area network) and  
(mapping same service invocation same client  
same wide area network same piconet protocol)

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              Name  
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DB=PGPB; PLUR=YES; OP=ADJ

L1    (ad hoc piconet same wide area network) and (mapping same service  
invocation same client same wide area network same piconet protocol)

1    L1

END OF SEARCH HISTORY

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L1: Entry 1 of 1

File: PGPB

Dec 30, 2004

DOCUMENT-IDENTIFIER: US 20040266439 A1TITLE: Systems, methods and computer program products for connecting ad hoc piconets to wide area networksAbstract Paragraph:

A hyper-scatternet includes a first ad hoc piconet, a second ad hoc piconet and a wide area network, wherein the first and second ad hoc piconets are configured to communicate with one another via the wide area network. Each ad hoc piconet can include an application server that includes an ad hoc piconet interface that is configured to communicate with an ad hoc piconet using an ad hoc piconet protocol, and a wide area network interface that is configured to communicate with a wide area network using a wide area network protocol. The application server also includes a service manifest that is configured to determine ad hoc piconet services that are available from the ad hoc piconet via the ad hoc piconet interface, and to advertise the ad hoc piconet services to the wide area network as wide area network services via the wide area network interface.

Summary of Invention Paragraph:

[0005] Some embodiments of the present invention provide a hyper-scatternet that includes a first ad hoc piconet, a second ad hoc piconet and a wide area network, wherein the first and second ad hoc piconets are configured to communicate with one another via the wide area network. Accordingly, hyper-scatternets can span wide geographic distances and need not be limited by the ad hoc piconet radio range. In some embodiments, each ad hoc piconet includes an application server that includes an ad hoc piconet interface that is configured to communicate with an ad hoc piconet using an ad hoc piconet protocol, and a wide area network interface that is configured to communicate with a wide area network using a wide area network protocol. The application server also includes a service manifest that is configured to determine ad hoc piconet services that are available from the ad hoc piconet via the ad hoc piconet interface, and to advertise the ad hoc piconet services to the wide area network as wide area network services via the wide area network interface. It also will be understood that application servers as described above may be used independent of a hyper-scatternet to connect an ad hoc piconet to a wide area network.

Summary of Invention Paragraph:

[0006] In other embodiments, the service manifest is further configured to determine first ad hoc piconet services that are available from the ad hoc piconet via the ad hoc piconet interface and to advertise the first ad hoc piconet services to the wide area network as first wide area network services via the wide area network interface. The service manifest is further configured to determine second wide area network services that are available from the wide area network via the wide area network interface, and to advertise the second wide area network services to the ad hoc piconet as second ad hoc piconet services via the ad hoc piconet interface. In other embodiments, a service invocation authority is responsive to a first service invocation that is received from a client in the wide area network via the wide area network interface, to map the service invocation to the ad hoc piconet protocol, to invoke the service on the ad hoc piconet via the ad hoc piconet interface, to receive a response from the ad hoc piconet and to provide the



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**Lynch, JR. et al.**

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(54) **SYSTEMS, METHODS AND COMPUTER PROGRAM PRODUCTS FOR CONNECTING AD HOC PICONETS TO WIDE AREA NETWORKS**

(52) U.S. Cl. .... 455/444; 455/41.2

(57) **ABSTRACT**

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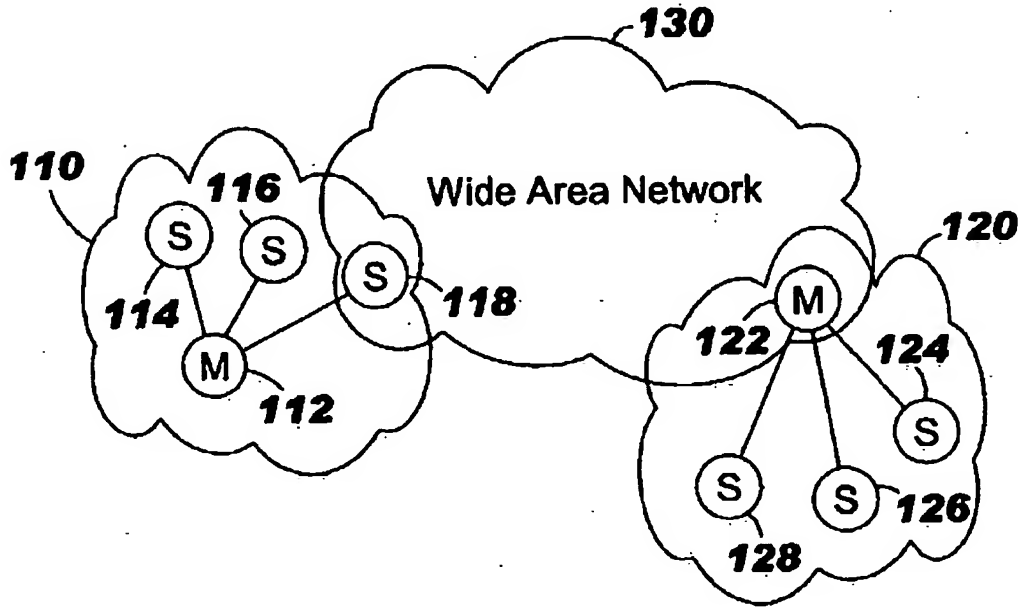
(21) Appl. No.: **10/606,045**

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**Publication Classification**

(51) Int. Cl.<sup>7</sup> ..... **H04Q 7/20**

A hyper-scatternet includes a first ad hoc piconet, a second ad hoc piconet and a wide area network, wherein the first and second ad hoc piconets are configured to communicate with one another via the wide area network. Each ad hoc piconet can include an application server that includes an ad hoc piconet interface that is configured to communicate with an ad hoc piconet using an ad hoc piconet protocol, and a wide area network interface that is configured to communicate with a wide area network using a wide area network protocol. The application server also includes a service manifest that is configured to determine ad hoc piconet services that are available from the ad hoc piconet via the ad hoc piconet interface, and to advertise the ad hoc piconet services to the wide area network as wide area network services via the wide area network interface.



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113 and L14

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<u>L15</u>	113 and L14	15	<u>L15</u>
<u>L14</u>	map\$4 same service	39745	<u>L14</u>
<u>L13</u>	l3 and l11 and L12	72	<u>L13</u>
<u>L12</u>	service same l10	1017	<u>L12</u>
<u>L11</u>	l8 and L10	2602	<u>L11</u>
<u>L10</u>	piconet or pico-net or micronet or micro-net or radio cell	5157	<u>L10</u>
<u>L9</u>	l4 same L8	991	<u>L9</u>
<u>L8</u>	protocol	568268	<u>L8</u>
<u>L7</u>	l3 and L6	73	<u>L7</u>
<u>L6</u>	service same l4	1010	<u>L6</u>
<u>L5</u>	l3 and L4	246	<u>L5</u>
<u>L4</u>	piconet or pico-net or microonnet or micro-net or radio cell	5064	<u>L4</u>
<u>L3</u>	l1 and L2	3674	<u>L3</u>
<u>L2</u>	wide area network or wan	157958	<u>L2</u>
<u>L1</u>	master and slave	76678	<u>L1</u>

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